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SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE
OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

EDITORIAL COMMITTEE: S. NEWCOMB, Mathematics; R. S. WOODWARD, Mechanics; E. C. PICKERING, Astronomy; T. C. MENDENHALL, Physics; R. H. THURSTON, Engineering; IRA REMSEN, Chemistry; CHARLES D. WALCOTT, Geology; W. M. DAVIS, Physiography; HENRY F. OSBORN, Paleontology; W. K. BROOKS, C. HART MERRIAM, Zoology; S. H. SCUDDER, Entomology; C. E. BESSEY, N. L. BRITTON, Botany; C. S. MINOT, Embryology, Histology; H. P. BOWDITCH, Physiology; J. S. BILLINGS, Hygiene; WILLIAM H. WELCH, Pathology; J. McKEEN CATTELL, Psychology; J. W. POWELL, Anthropology.

FRIDAY, AUGUST 8, 1902.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. SECTION
H—ANTHROPOLOGY.

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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

DURING the period of the fifty-first meeting of the American Association for the Advancement of Science at Pittsburgh, June 28 to July 3, 1902, there was held the founding meeting of the American Anthropological Association. This gave a double impulse for the attendance at the meeting of the anthropologists of the country, including those of Section H, and consequently there were present at the sessions of Section H many of the foremost anthropologists, whose interest was sustained until the close of the session.

Section H was organized, in the audience room of Bellefield Church, on Monday morning, June 30, immediately after the adjournment of the general session, and, with two later mentioned exceptions, held all of its sessions in the same place. The officers for the meeting were as follows:

Vice-President, Stewart Culin.

Secretary, Harlan I. Smith.

Member of Council, W J McGee.

Sectional Committee, J. Walter Fewkes, vice-president Section H, 1901; George Grant MacCurdy, secretary Section H, 1901; Stewart Culin, vice-president Section H, 1902; Harlan I. Smith, secretary Section H, 1902; Franz Boas, George A. Dorsey, William H. Holmes.

Member of General Committee, Walter Hough.

During the meeting the following members interested in anthropology were elected

fellows: Livingston Farrand, William C. Mills, Charles L. Owen, A. E. Jenks, A. H. Thompson, J. D. McGuire, Frank W. Blackmar, William Wallace Tooker and William Henry Goodyear.

The reports of the committees on the teaching of anthropology in America and on anthropometry, and the resolutions on the American International Archeological Commission, having been adopted by the Council, were printed in the account of the meeting by the general secretary (SCIENCE, pp. 45, 46).

THE COMMITTEE ON THE PROTECTION AND
PRESERVATION OF OBJECTS OF ARCH-
EOLOGICAL INTEREST REPORTED
PROGRESS.

Thomas Wilson, LL.D., Curator of Prehistoric Anthropology in the Smithsonian Institution, died May 4, 1902, at the age of seventy. He became a member of Section H of the American Association for the Advancement of Science in 1888, was made a fellow at the thirty-sixth meeting and was elected vice-president of Section H for the forty-eighth meeting, which was held in 1899.

REPORT OF THE COMMITTEE ON THE DEATH OF
DR. THOMAS WILSON.

The committee appointed by Section H of the American Association for the Advancement of Science to suggest action on the death of one of its esteemed members, has the honor to make the following report:

WHEREAS, the death of Dr. Thomas Wilson, a former vice-president of the Association, has deprived us of one whose presence at our meetings has contributed much to their value, and has deprived prehistoric science of an indefatigable and earnest worker; in order to express our high appreciation of his worth and labor, we recommend the following resolutions:

Resolved, That in the death of Dr. Thomas Wilson the Association has lost a most efficient and industrious worker in the field of prehistoric archeology, the example of whose devotion to science is worthy of emulation.

Resolved, That a copy of these resolutions be sent to his widow and family and that a second copy be placed among the records of the section.

WARREN K. MOOREHEAD,
STEWART CULIN,
HARLAN I. SMITH,
J. WALTER FEWKES.

The report was adopted by the Section.

The following resolution was presented by Franz Boas and adopted by the Section:

Resolved, That it is the sense of this meeting that it is desirable to bring about the closest possible correlation between the work of Section H of the American Association for the Advancement of Science and the American Anthropological Association.

Retiring Vice-President Fewkes delivered his address, 'Prehistoric Porto Rico,' Monday afternoon in the Oakland church. It was printed in SCIENCE of July 18, 1902.

Following is a list of the discussions and papers presented. Each title is accompanied by an abstract whenever such could be secured from the author.

TUESDAY, JULY 1.

Discussion of the relations of Section H to the American Anthropological Association.

The Human Effigy Pipe, taken from the Adena Mound, Ross Co., Ohio: by WILLIAM C. MILLS.

This pipe is one of the most wonderful pieces of art taken from the mounds of Ohio. It is tubular in form and represents the human body in the nude state, with the exception of a covering around the loins. On the front of this covering is a serpentine scroll and in the back it is tied and hangs

down as an ornament. The pipe is eight inches in length and made of fire-clay unburned. This fire-clay can be duplicated in a number of places along the Scioto River and farther down toward the Ohio. The paper was illustrated by pictures of the pipe and a sample of the fire-clay.

The paper was discussed by J. D. McGuire, J. Walter Fewkes and Warren K. Moorehead. Special attention was called to the fact that pipes were often used to blow out smoke on ceremonial occasions rather than only for drawing in smoke for pleasure.

Gravel Kame Burials in Ohio: WARREN K. MOOREHEAD.

This paper dealt with a class of prehistoric remains found in Ohio and which have, up to the present, scarcely attracted the attention of archeologists. The author spent ten or twelve seasons in the exploration of Ohio mounds and other remains.

The Kame burials, he said, are found in the gravel knolls of supposed glacial origin. These burials may or may not be older than the remains of the so-called 'mound-builders'; this is a question as yet undetermined.

The crania seem to him different from those of the mound interments, and he said that certainly some of the artifacts taken from the gravel burials do not have their counterparts in the tumuli finds. The skeletons are better preserved and therefore more sought by the anatomists. Moisture, by reason of the porous nature of the sandy soil or gravel, percolates below the bones and leaves them dry. It is not unusual to find almost every bone of the body well preserved. Burials in earth mounds or in cemeteries when in clay and other compact soils are frequently badly decayed—sometimes only the crown of the teeth remaining.

Attention was called to these differences and comments from other archeologists were requested. He endeavored to prove that

the burials in gravel knolls mark the existence of a different tribe from that supposed to have been responsible for the mounds and earthworks.

Microscopical Sections of Flint from Flint Ridge, Licking Co., Ohio: WILLIAM C. MILLS.

This paper attempted to prove that the Flint Ridge material contains foraminifera, in opposition or correction of the photographs of microscopical sections and statements of Professor Thomas Wilson in his 'Arrowheads, Spearpoints and Knives of Prehistoric Times.' Dr. Mills said he had made sections of nearly all the different varieties of flint found in this prehistoric quarry, and found that certain portions of the flint are full of foraminifera. He exhibited drawings of these various forms and illustrated other features by means of thin sections of flint mounted for the microscope.

The Hernandes Shell-heap, Ormond, Florida: C. H. HITCHCOCK.

This paper described the shell-heap on the Spanish Grant. Twenty kinds of mollusca were found. Bones of the deer, two kinds of dogs, opossum, wolf and many of the porpoise, alligator and turtles, as well as of several fish, were also secured. Some implements were found, but the most important discoveries were those of the bones of the great auk. One bone was first collected by Professor Blatchley. The identity of the bone is now confirmed, so that the range of this bird is supposed to have reached as far south as Florida within the human period. Specimens of the bones were exhibited and a blackboard diagram was made to explain the site.

The paper was discussed by O. P. Hay, Harlan I. Smith and J. D. McGuire. The latter suggested that persons of the white race might have taken the auk bones to the region during the last four hundred years.

The Late Dr. Thomas Wilson: WARREN K. MOOREHEAD.

This paper included some brief remarks upon the career of the archeologist, Dr. Thomas Wilson, late curator of the Department of Prehistoric Anthropology, Smithsonian Institution. Dr. Wilson has conducted researches in both France and the United States, and published numerous reports and papers, notable among which are two, 'The Swastika' and 'A Classification of Spearheads, Arrowheads and Knives.' Dr. Wilson was greatly interested in young men who desired to take up anthropology as their life work. He was possessed of a peculiarly pleasing personality.

An Osage Mourning—War Ceremony: GEORGE A. DORSEY.

AFTERNOON SESSION.

This paper was discussed by Franz Boas, who said, among other things, practically as follows: In ritual we find perhaps the most permanent activity of primitive man. The explanations of similar rituals are often given by various tribes and found to differ fundamentally. Actions seem more permanent than thoughts or the psychological explanation of such acts. The study of ritual may solve problems the explanations of which we are unable to discover from the study of other matters. We should be thankful for such detailed description of rituals as those given by Dorsey, Fewkes, Voth and others, particularly regarding the Southwest.

J. Walter Fewkes stated that Dr. Dorsey's paper well illustrated the advantage of the study of primitive religion. The study of ceremony as an objective element in religion is very important. Such studies accumulate matter we can not now appreciate, but ceremonies are rapidly disappearing or being modified, so that we may live to see the end of them and we must now make the records. Papers of this kind

should increase. We should have all details and interpretations when possible.

The observer has better opportunities, and is in many cases more competent to explain, than any one else. The true explanation in many cases is not known to the participants. The meaning is only obtained by comparative study. So it is necessary to record all events. The value of recording what every man does is important, so we may have in print material for such comparison.

A few ceremonies remain, more than some think, but the incorporation of foreign elements is everywhere marked. The study of ceremony has strong and weak sides; strong as above stated. The weak side is due to the probability that ceremonies may change. Records of changes, therefore, should be made in order to trace the evolution of ceremonies. Not only what is done, but also what is said and the songs and prayers, should be recorded.

W J McGee expressed the following ideas: Peoples who participate in ceremonies can seldom explain them, any more than a caged bird can tell why it beats its wings in vain effort to migrate south in the fall. Ceremonies are instinctive, running far back. The Indians who perform seldom realize that this is so. They hardly recognize the existence of laws governing the ceremonies. Through the heritage of experience, movements take place definitely in accordance with law. We know that the points of the compass are prominent in the rituals of all our primitive peoples. We who no longer have occasion to remember points of the compass find one of our strongest instincts is to carry orientation. It is an instinct, and typical of what has come up from lower stocks than those represented by the Indians described by Dr. Dorsey and others.

The instinct differs only in so far as some peoples have lost some of theirs. The

fittest instincts have been preserved. Rituals are, in a way, records of partly instinctive habits controlled by law stronger by far than the minds of the men who perform the ceremonies.

Walter Hough expressed the following ideas: In some cases one man thinks for a community. The ceremonies in Hopi may be likened to a university education, beginning with childhood and ending at death. In the ceremonies the older persons teach the younger.

Dr. Dorsey said that the more he learned the greater the number of ceremonies he found still existed. He had seen ten distinct ceremonies in one week.

Anthropological Museums in Central Asia:

G. FREDERICK WRIGHT.

One of the agreeable surprises awaiting the American traveler in Siberia is the evidence which he sees in every center of population of an intelligent interest in archeological and anthropological investigations. Indeed, there is scarcely a town of ten thousand inhabitants in all Siberia but has a public museum, under the care of a learned and competent curator, in which special attention is devoted to these subjects. There are such museums, finely housed, in the young cities of Valdivostock and Blagovestchensk; while in the older centers of population the museums often rival anything which we have in this country outside of Washington, New York, Boston and Chicago.

One of the finest of these museums is that of the branch of the Imperial Geological Society which has been formed at Khabarovsk, the capital of the Maritime Province, on the Amur River. The Museum of the Society occupies one of the largest and best-situated brick buildings of the city. Like all the museums in Siberia, it is largely devoted to matters of local interest. But an immense amount of both expense and

pains has been devoted to its perfection and usefulness, and it is one in which all, both officers and people, take a just pride.

The museum at Irkutsk is of still longer standing, and is enriched by the accumulations of well-nigh a century of intelligent exploration and research. The museum building in Irkutsk is also one of the finest in the city. But perhaps the most interesting and important museum in Siberia is that of Minusinsk. Here, under the skillful guidance of Mr. M. Martianof, the principal druggist of the town, a museum has grown up which attracts anthropologists from Moscow, Copenhagen and indeed all parts of the world. The museum is well housed in a large brick building.

Other museums of much importance are to be found at Krasnoyarsk, Yeniseisk, Tomsk, Omsk, Biisk, Tashkent and Tiflis. That of Tashkent is at the present time receiving valuable additions illustrative of the civilization of the Græco-Bactrian kingdom, which followed the conquest of Alexander. The museum at Tiflis is one of the largest and best arranged of all in Asiatic Russia, and is fortunate in still having the benefit of the supervision of the distinguished botanist Radde.

All these museums are supported and have been mainly built up by private contributors and are the object of much pride on the part of the people. Taken together, they represent an educational factor which is developed much more fully in Asiatic Russia than it is in America, and may well provoke our emulation.

Climatic Changes in Central Asia traced to their Probable Causes, and discussed with Reference to their Bearing upon the Early Migrations of Mankind: G. FREDERICK WRIGHT.

That there have been extensive climatic changes in Central and Western Asia in

recent times is made evident by a variety of considerations.

I turn with favor to the natural explanation offered by the theory of an extensive subsidence of the Asiatic continent, approximately contemporaneous with the accumulation of ice during the glacial period over North America and Europe. Such a subsidence would produce thus in Central Asia an internal sea as large and deep as the Mediterranean. This vast body of water in Central Asia would add so much to the evaporating surface that it would naturally largely increase the rainfall upon the bordering mountains to the north.

There are numerous indications that Turkestan has been one of the most important centers, if not the original center, from which the human race has radiated. Here the conditions of life are still extremely favorable, and during earlier climatic conditions were even more favorable than now. All Central Asia is most admirably situated for irrigation. All along the base of the Hindu Kush, the Tian Shan, the Alexandrofski, the Ala-tau, and the Altai range there is a broad rich belt of loess, the most fertile soil in the world when well watered, and the water for its irrigation is near at hand.

The conditions were preeminently favorable for the early development of civilization. Even now the population along this irrigated belt is dense. But it is evidently far less than at a former time. Doubtless this is partly due to the disorganized political condition which has long characterized the region, but in no small degree it is probably due to the diminution of the water supply. In driving over the country one finds in various places the remains of irrigating ditches long since abandoned, and sees innumerable mounds indicating a former population where now scarcely any is to be found.

In the same line it is also instructive to

notice the many indications of a constant migration from this center. By far the most important theory of the origin of the Aryan languages would fix it in Bactria, from which center Aryan-speaking people in prehistoric times migrated to India on the one side and to Persia and Europe upon the other. This too, was the probable center of the Mongolo-Tartar races, whose families radiated thence to Malaysia and China on the one side, to Turkey, Hungary and Finland upon the other, and, spreading out over the vast wastes of Siberia, across into America, peopled the western continent.

When we come to know the whole history of the great Tartar migrations it is likely that we shall find that the gradual desiccation of the country through the climatic changes had much to do with it all.

The paper was illustrated by a map and was discussed by J. Walter Fewkes, J. D. McGuire, Harlan I. Smith, W J McGee, Stewart Culin, William H. Holmes and others.

Mortuary Ceremonies of the Cocopa Indians: W J MCGEE.

The Cocopa Indians occupy the lower part of the valley of Colorado River, their territory extending from the International Boundary to the head of tides and salt water entering from the Gulf of California. Although they subsist in part by fishing and the chase, they are essentially agricultural. By reason of the floods of the Colorado they are driven annually from the bottom lands of the river to the higher grounds, just as were the ancient Egyptians occupying the valley of the Nile. The annual migrations are of great regularity, and have affected the habits of the tribe in various ways. One consequence of the enforced abandonment of homes during each summer is an enfeebled home sense; and this is connected with mortuary customs,

both directly and through an obscure mythology. On the death of an adult his small properties are collected for distribution among non-relatives, while the body is placed on a rude bier and fuel is gathered for cremating it. Especially if the decedent is a householder, intelligence of his death spreads rapidly and fellow tribesmen of other clans, as well as Indians of other tribes, and even Mexicans and Americans, gather and help themselves to such property as weapons, fishing-tackle, stored grain and other food supplies, fowls, horses, saddles and bridles, and other chattels. Meantime the pyre is being arranged alongside the house, and any remnants of the chattels (or all, in case claimants have not appeared) are placed on and about it; and about the end of the second day this is fired. The light-framed house soon catches from the pyre and is consumed with it, while any neighboring houses belonging to the family or clan also take fire, either naturally or by the help of the mourners, so that the entire homestead is destroyed. The surviving members of the family abandon the site forever; and it is shunned for years by other families of the tribe.

This paper was discussed by George A. Dorsey, Walter Hough and J. D. McGuire.

The Section adjourned to Bellefield School for the following two papers, in order to avail itself of lantern facilities.

A Collection of Crania from Gazelle Peninsula, New Pomerania: GEORGE GRANT MACCUDY.

This is a comparative study of twenty-four crania belonging to individuals from the tribes of Gazelle Peninsula, New Pomerania. They were procured in 1894, through Mr. Frederick Mueller, of Amsterdam, by Dr. John S. Billings, then in charge of the U. S. Army Medical Museum. Their provenience is attested by Dr. J. D.

E. Schmeltz, Director of the National Museum of Ethnography, Leyden.

The collection is owned by the Free Museum of Science and Art, University of Pennsylvania, the director, Mr. Stewart Culin, kindly forwarding it to Yale University Museum for purposes of study.

The skulls are small and all dolichocephalic. The minimum and maximum frontal diameters are small, averaging, respectively, 20.3 mm. and 25.7 mm. less than for English crania. The height averages greater than the greatest breadth, a character called hypsistencephaly; the crania are prognathous, platyrrhine, platyopic, phænozygous and megadont. Glabella and superciliary arches are prominent. Apertura pyriformis is simian in character. Fossæ caninæ are pronounced. The teeth are well preserved and not crowded. The wisdom teeth are lacking in none. There is a tendency toward a division of the root in the first upper premolars. The alveolar arch of the upper jaw projects considerably beyond the third molars (in one case as much as 12 mm.). The percentage of first lower premolars with anterior roots is high; the spina mentalis is practically wanting, and the angle of symphysis is large. The paper was illustrated by lantern pictures.

Burials of Adena Mound: WILLIAM C. MILLS.

This paper discussed the difference between the various burials of the Adena Mound, which was in Ross Co., Ohio. It was illustrated by lantern pictures.

Adena mound was cone-shaped, 26 feet in height, with a circumference of 445 feet. The outer surface of the mound was covered with a leaf-mold from three to seven inches thick. As work progressed upon the mound, it was discovered that it had been built at two different periods; the first period is represented by the original mound, which was twenty feet high, with a base

diameter of ninety feet, being composed almost entirely of dark sand. The second period is represented by the enlargement of the mound upon all sides. However, on the south side the mound was only covered with a few feet of soil, while on the north side the base was extended more than fifty feet, changing the apex between twelve and fifteen feet. The mode of burial in the first period was far different from that in the second. In the original mound no burials were found until within five feet of the base line, and all of the bodies were enveloped in bark or a coarse woven fabric and then enclosed in a rude sepulcher made of timbers, while in the second period the bodies were simply covered with soil; not even a trace of bark was found with the skeletons. However, the implements and ornaments of the first period were similar to those of the second period.

WEDNESDAY, JULY 2.

Meeting with the American Folk-Lore Society.

Cooperation Between the Anthropological Museum and the Public School: FREDERICK HOUGHTON.

This paper touched on the importance of the place occupied on the school curricula by the natural sciences; the requirements and difficulties of teachers, in teaching the sciences in elementary schools; and the desirability from the teacher's viewpoint of help, in her work, from the science museum, in the form of lectures for teachers and pupils and of exhibits for the use of schools.

From a museum point of view, it spoke of the desirability of enlarging the usefulness of the museum, in the great field open to it in cooperating, in the work of education, with the public-school system.

The body of the paper was devoted to an outline of work possible for a museum to

do in connection with the school. This was commented upon, both from the viewpoint of the teacher and from that of the museum, and experiments made by the Buffalo Society of Natural Sciences along the lines laid down in the outline were described at some length as being illustrative of the work outlined.

This paper was favorably discussed by W J McGee and is to be published in full in the *Journal of Education*.

Uses of Archeological Museums in Education in the Public Schools: LEE H. SMITH.

This paper was read by title.

Explorations of 1901 in Arizona: WALTER HOUGH.

This paper gave an account of one of the most important explorations carried on for the National Museum in the pueblo region during five months of 1901, describing ruins on the Apache Reserve, the White Mountain plateau, the petrified forest, southwest of Holbrook, north of Holbrook and on the Hopi Reserve. The field selected for examination lies in eastern Arizona and extends from Fort Apache to the Hopi Reserve, a distance of 180 miles and east, and west of Holbrook, a distance of about 60 miles.

During the month of May Dr. Hough explored the ruins of McDonald's Canyon and at the petrified forest, securing about 1,000 specimens. On the first of June he took charge of the scientific work of the Museum-Gates Expedition which was financed by Mr. P. G. Gates, a man of wealth interested in pueblo archeology.

Dr. Hough said that in the course of the season's work of five months in 1901, sixty ruins were visited and eighteen of them excavated. Some idea of the difficulties encountered, aside from the 800 miles of wagon travel, may be gathered when it is known that five of the groups required dry camps, water being hauled considerable dis-

tances for men and animals. The work, however, was quite successful, 3,000 specimens having been collected. Plans of 24 pueblos and maps showing the location of the groups were drawn and ethnological data, specimens and photographs secured from the Apache, Navajo and Hopi Indians visited during the season. This material will be published in the 'Annual Report of the U. S. National Museum' for 1901. The paper was illustrated by a map and discussed by J. Walter Fewkes.

The Throwing-stick of Prehistoric People of the Southwest: GEORGE H. PEPPER.

The throwing-stick as found in the Southwest was used by a prehistoric people who occupied a restricted area in southeastern Utah and northeastern Arizona. In form it is similar to the Mexican atlatl and its nearest neighbor is from the State of Coahuila of that country.

The throwing-stick from the Southwest is represented by three perfect specimens, so far as known; these are supplemented by a few incomplete specimens and fragments. They are made of a hard springy wood and have handles in the form of loops, which are made of rawhide.

The spears or darts used with this weapon present many interesting features. They were of the compound form, being composed of a main shaft and a stone-pointed fore shaft. The main shaft was made of wood or reed. One end presented a slight depression which fitted the spur of the throwing-stick. The other end was drilled to the depth of an inch to receive the pointed end of the fore shaft. The main shaft, in some instances, was feathered, but the evidence at hand is too meager to determine whether this was the usual form or merely a variant.

The fore shafts were generally made of wood, having for a point a chipped blade of stone. They varied in size and form, some

being so large that it would seem that they might have been used as fore shafts of spears. These fore shafts are similar in form to the hafted knives used by the same people; the only difference is the finish of the handles, one being pointed, whereas the other is squared.

Of the three throwing-sticks mentioned, one is the property of Professor Frederick Starr, of the University of Chicago, the second is in the State Collection in Salt Lake City, Utah, and the third is in the Hyde collection, American Museum of Natural History, New York. In the University of Pennsylvania there are two specimens, but one is broken and the other has no finger loops.

This paper was illustrated by photographs and discussed by Stewart Culin, J. Walter Fewkes and W J McGee. It will be published in the *Bulletin of the American Museum of Natural History*.

AFTERNOON SESSION.

Meeting with the American Anthropological Association.

A War Festival of the Hopi Indians: J. WALTER FEWKES.

This paper discussed the room of the war god, preliminary assembly, meeting of warriors, greater and lesser festivals, the bison dance, and concluded with general remarks on the festival.

A Rare Form of Sculpture from Eastern Mexico: MARSHALL H. SAVILLE.

This paper described a rare form of sculpture from the region of the Totonacans in the States of Vera Cruz and Puebla. Less than a dozen examples are known. The example in the collection of the American Museum of Natural History is notable for the striking resemblance of the masked human figures with snakes in the mouths to the snake dancers of the Hopi or Moqui Indians of Arizona. Other examples shown

in photographs show a resemblance to the figures seen in the bas reliefs of Santa Lucia, Cozumahualpa, Guatemala. These sculptures are found in the same region where many of the stone yokes have been discovered, and probably have some relationship with those enigmatical objects.

This paper was illustrated by photographs and a very artistic sculpture loaned for the purpose by Dr. W. J. Holland, Director of the Carnegie Museum. It was discussed by J. D. McGuire, Walter Hough, William H. Holmes and J. Walter Fewkes.

The Possible Origin of the Folk-Lore about Various Animals: H. A. SURFACE.

This paper was read by title.

The Place of Anthropology among the Sciences: W J MCGEE.

Anthropological Museums and Museum Economy: STEWART CULIN.

The modern science of anthropology is at once the youngest and the most complex of the sciences—indeed, it is in large measure the outgrowth of all the older branches of definite knowledge. The keynote of astronomy, the earliest of the sciences, may be said to be gravity, while that of chemistry, the next oldest science, may be defined as affinity; yet since chemical relations are at least indirectly controlled by gravity, the basis of the later science is really gravity + affinity. So, too, the keynote of botany, or phytology, is vitality, yet this property of plat-matter is but superadded to the gravity and the gravity + affinity with which the two older sciences are concerned. In the realm of zoology, motility, or the power of self-movement, is added in turn; and in anthropology, mentality, in all its bearings on conscious self-activity, becomes the keynote—yet this distinctive property is only added to the motility, vitality, affinity and gravity to which the leading older sciences are especially devoted.

Classification and Arrangement of the Collections of an Anthropological Museum: WILLIAM H. HOLMES.

This paper in a more developed form is to be published in the 'Annual Report of the U. S. National Museum,' for 1901.

Methods of Collecting Anthropological Material: HARLAN I. SMITH.

This paper stated that there are three methods of collecting anthropological material, namely, the research method, the synoptic method and the casual method. It concluded that for economy, efficiency and accuracy in diffusing knowledge, the synoptic method of collecting should be replaced by exchange, and that the research method is of the highest type, furnishing all the material results produced by the other methods.

The paper is to be published in the *Wisconsin Archeologist*, Vol. 1, No. 4, May, 1901.

The Preservation of Museum Specimens: WALTER HOUGH.

It is the province of the museum worker to check insects as far as possible, and to his aid come chemistry and entomology. The subject is vital, not only to the museums, but to a vast number of people.

The wonderful advance of chemistry has given us a number of substances useful for the deterring or extermination of moths. Some of these are disagreeable and dangerous, unsuitable for domestic use, though available for the Museum.

The methods of poisoning specimens practiced in the National Museum suggest that a portion of the process may be employed for domestic use. This may be done by securing an air-tight box—a packing-box lined with manila or grocer's paper answers—placing the fabrics or objects therein, and after pouring in gasoline liberally, closing the lid tightly, and leaving it for a day or so. It has been found that woollens,

furs, etc., treated in this way will not be subject to the attack of moths for a long time, as the oily substances in the animal fibers on which the moths feed have been removed to some extent, leaving the fabric undesirable. Decorative objects, with which one does not come in immediate contact, may be brushed with a weak solution of corrosive sublimate in alcohol, one fourth ounce to the quart.

The paper summarized the experience gained during the past seventeen years in the treatment necessary to preserve museum specimens from attacks of insects, from dampness, dust, etc.

The Australian Native: J. A. FOWLER.

This paper was illustrated by pictures and read by title.

The Growth of Children: F. BOAS.

This paper was read by title on motion of the author.

Charcoal Covered by Stalagmite from Put-in-Bay: E. L. MOSELEY.

In Perry's Cave charcoal in different layers of stalagmite shows that fires were built in the cave at times separated by considerable intervals. A specimen of charcoal, which was exhibited, has a stalagmitic covering about two inches thick.

The Sandusky Engraved Slates: E. L. MOSELEY.

Two argylite pendant ornaments were exhibited. One was engraved with a proboscidean on one side and a coiled rattlesnake on the reverse. The other was engraved on each side with an Indian face. The circumstances of their finding were narrated.

The aboriginal character of the engravings was questioned.

Exhibition of a Modern Clay Tablet from Michigan: HARLAN I. SMITH.

A clay tablet from Michigan, and bearing impressions, was exhibited. The object is

of recent manufacture and bears no resemblance to native American art. It was probably made and deposited, as have been many similar objects, for deceptive purposes and was exhibited in opposition to such an end.

Square Occipital in the Cranium of a Modern Othomi Mestizo: DR. NICOLAS LEON, Professor of Anthropology and Ethnography in the Museo Nacional, Mexico.

From among the mortuary spoils which now and then are exhumed from the municipal pantheon of Tula Allende, State of Hidalgo, Mexico, and which are thrown into a common place called the ossuary, was taken out, a short time ago with other Othomi skulls, the one which is the object of the present communication.

It has all of the characters of a masculine cranium, well defined, of about forty years of age, and without notable asymmetry.*

An examination of the various parts of the face and the margins of the anterior apertures of the nasal fossæ manifest the anatomical particularities of the American Indian race. The author was able to acquire some information respecting the individual to whom this cranium pertained, and supposes it was the son of an Othomi Indian father of pure blood and of a woman descended from the whites, that is, it was that of a mestizo. The anatomical particularity of this skull is worth pointing

* The author is now preparing a critical study of all the publications referring to the anthropology of Mexico, especially those given to the light by Mexicans. Figuring among them is the paper of a pseudo-anthropologist who pretends to obtain general laws of the biology and somatology of the Mexican aborigine, giving as racial characters some anomalies, badly observed and interpreted, and deducing from a small number of osteological measurements, by manipulation, general laws. The title of this work is 'Anthropologie Mexicaine Osteologie,' Mexico, 1900.

out; it is the geometric form of its occipital, which is nearly square.

It is certain that this does not constitute (and less in an isolated case such as the present) a racial characteristic; it is presented only as data that will aid in the study of the morphology of the occipital bone, which it is thought will supply the explanation of its anomaly. It is useless to expound the theory of the development of the occipital, for it is well known by all who occupy themselves with the anatomical sciences.

In all of my studies I have never encountered a similar case and it is desirable that this isolated datum may be utilized. For this reason it is brought to the attention of the fellows of this Association.

This paper was illustrated by a photograph and read by title.

Evanescent Congenital Pigmentation in the Sacro-Lumbar Region: HARRIETT NEWELL WARDLE.

The purpose of this paper was not to record any new observation, but to call to the attention of American anthropologists the various aspects of the questions relating to the occurrence of well-defined pigmented areas, chiefly in the sacro-lumbar region common upon a large percentage of the children of certain of the darker races. The stigmata fade away in from two to eight years. Their presence has been observed sporadically over a wide geographic territory reaching from Greenland in the east to Madagascar in the west—Danish Greenland, Vancouver, Hawaii, Samoa, Korea, Japan, China, the Philippines, the Celebes, Java, Malay archipelago, Indo-China, Madagascar,—thus appearing in many ethnic divisions. Nevertheless they have been elevated to the position of a racial character and called ‘Mongolian marks.’ No effort has as yet been made to inquire into their biological significance.

The hypothesis is offered that these evanescent congenital pigmented areas are the nuclei of more general pigmentation, the regions wherein occurs the first deposition of the cutaneous pigment normal to the darker races and peoples, and that their apparent disappearance may be explained by the deepening of the tint of the whole body surface. When it is remembered that the cells of the rete mucosum are derived from those of the dermis, the fact becomes very significant that the pigment of the so-called Mongolian marks is situated, not in deep epidermal cells, but in the underlying dermal tissue, for it would seem to be precisely in the latter layer that the earliest carbonous deposit should be expected.

This paper was read by title.

The newly elected officers for the Washington meeting are:

Vice-President, George A. Dorsey, Curator of Anthropology of the Field Columbian Museum, Chicago.

Secretary, Roland B. Dixon, Instructor in Anthropology, Harvard University, Cambridge.

HARLAN I. SMITH,
Secretary.

THE NORTH CAROLINA SECTION OF THE
AMERICAN CHEMICAL SOCIETY.

THE sixth annual meeting of the North Carolina Section was held on Saturday, May 17, 1902, at 11 A.M. in the office of State Chemist, Agricultural Building, Raleigh.

After the transaction of some miscellaneous business the following resolution was unanimously adopted:

In the death of Hugh Lee Miller on February 5 last the North Carolina Section of the American Chemical Society sustained its first and deep loss of one of its charter members. After graduation from the State University in 1890, where he served one year as assistant in the chemical department, he acceptably filled an instructorship in the Agricultural and